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NAVY ACQUISITION COST STUDY

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ABSTRACT

The thesis of the attached report is that weapons acquisition cost growth can be characterized with a fair degree of accuracy. The causes of cost growth can be categorized generally as being functions of: B-C-T-T

- Contractor buy-in
- Program/Contract changes
- Turbulence
- Time

The study highlighted an all-too typical scenario: contractors buy-in; program/contract changes occur; quantities and budgets vascillate causing program stretch-out that becomes increasingly expensive with passage of time; all leading to inevitable cost growth.

The report asserts that the CNM can effect improvement unilaterally in each of these four areas.

Improvement must stem from procedural changes mandated by the CNM accompanied by attitudinal change that must be instilled throughout the Naval Material Command--instituted by the CNM top down and pursued relentlessly for as long as it takes to effect the change desired.

The state of the Navy and the Nation demands nothing less.

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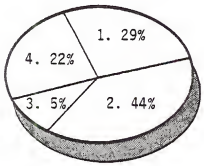
OVERVIEW/PURPOSE OF STUDY

Both cost growth and absolute cost of weapon system programs are an acute defense issue. The effects of cost growth are evidenced as less defense capability and lessened public confidence in the ability of the Department of Defense to exercise effective stewardship of public tax dollars. Reagan Administration increases in defense outlays mandate a heightened awareness of weapon system cost and increased effectiveness in constraining unnecessary weapon system cost growth.

A plethora of past studies and implementation plans for corrective action have been generated. Nevertheless, managers of weapons programs continue to be caught by surprise as weapon program costs increase dramatically over initial program profiles.

Past studies generally allocate weapon program cost growth as follows:



1. Escalation
2. Program quantity and rate changes (up and down)
3. Engineering changes
4. Other

This study was commissioned by the CNM to:

1. Identify salient recommendations of past study groups and to determine the extent of their implementation.

2. Assess the reasons for nonimplementation of reasonable past recommended action.

3. Lay out actions that can be undertaken unilaterally by the Chief of Naval Material to constrain unnecessary weapons program cost growth.

ORGANIZATION OF STUDY REPORT

Past studies identify a broad range of causes and symptoms of cost growth. These causes were categorized for purposes of this study into 15 major issues of which several in turn are comprised of one or more subissues. The listing of issues/subissues is set forth as Appendix A.

Past studies that were reviewed are identified in Appendix B Bibliography (some 200 in number).

Reasons for nonimplementation of past study recommendations were solicited from knowledgeable Navy and industry representatives. Their organizations are listed in Appendix C. key individuals contacted are not identified as they were assured during each interview that their comments would be used on a non-attribution basis.

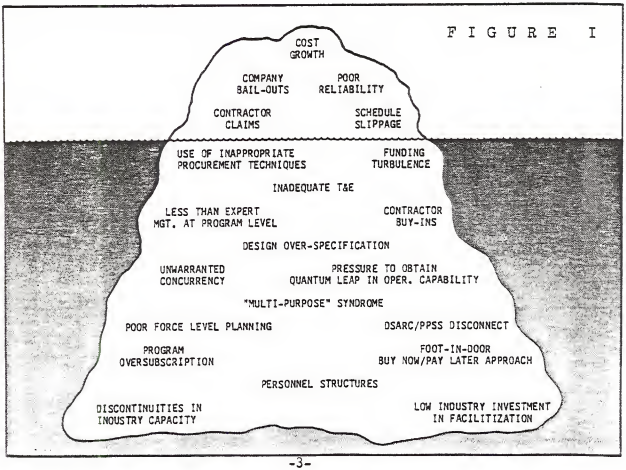
Salient recommendations from prior studies are arranged within the 14 "issues" and are set forth in Section I, Part A.

the recommendations. An assessment is made on two levels: (1) "some" progress or (2) "almost no" progress. Of 50 salient recommendations reviewed "some" progress is perceived to have occurred relative to 25. "Almost no" progress is perceived to have occurred on the remainder.

Section I, Part B elaborates upon each of the 14 issues and related subissues by describing the issue "problem," stating a conclusion as to the current status of the problem and setting forth recommended action.

It became apparent in reviewing past study recommendations that the causes and effects of cost growth are frequently intermingled. We have attempted to depict these relationships as we see them in the form of an iceberg. Fundamental and relatively intractable causes are shown near the bottom; those causes which receive visibility most frequently are illustrated above the water.

FIGURE I



A set of recommendations that can be implemented within the NMC with little or no dependence upon, or cooperation from, higher authority is set forth in Section II, Part A of the study.

There is a set of more sweeping actions that could be taken given the new administration's receptivity to proposals for concrete action to overhaul existing processes. These more drastic actions would require overt participation or at least passive cooperation by the Secretariat and OPNAV. We have not complicated this report with those recommended actions.

SUBSTANTIVE DISCUSSION

The main thesis of this report is that we simply do not practice good business management in the Navy. The majority of acquisition practitioners are "engineers" who attempt to make business judgements lacking the proper training and background necessary to more enlightened decision making. The balance are contracting officials who are attempting to satisfy the overwhelming burden of living within the constraints of every-increasing rules, regulations and statutes. The broadest aspects of the acquisition strategy are reviewed at very high levels to assure all sacred cows have been accommodated; virtually no one in the process analyzes the acquisition from a strict business management point of view.

Industry interviewees admit candidly to "buying in," and they explain in very rational terms why that is done. Most

interviewees told us that the buy-in was a conscious decision, driven by the need to underbid the competition and fit their perception of Navy's budget profile. They intend at the outset to swallow most of the underbid, hoping to implement in-house cost efficiencies, etc., to remain within contract limits after award. Things go reasonably well for about one year following award while effort is in the initial "paper" and start-up stages. When larger, hard-core effort is undertaken the bow wave eventually falls back on the contractors. Then their projections of cost growth exceed levels that they were willing previously to absorb. At that time we are hit with the "surprise:" cost growth.

In reality, the surprise should be no surprise at all. If we understand the scenario in which we are placing our major contractors, we should anticipate these results every time.

Most industry interviewees volunteered the perception that Navy acquisition personnel were intelligent, hard working, and dedicated. They all stressed disappointment at the naivete of these personnel in the business management arena. This, too, should come as no surprise. We have project managers who are superb Naval officers but have little practical experience in dealing with industry. Our acquisition engineers are people who are technically trained initially, but because of the "system" and undermanning they have become estranged from the profession and have out of necessity been turned into professional bureaucrats to ply the trade of "paper pushing."

We diffuse authority and program direction through every layer of the government hierarchy from the lowest level of project engineer to congressional staff. Decisions are made at every level based on personal perceptions of "what A-109 means," or political influences.

What appears to be least understood are the hidden costs of doing business with the Navy. We cajole, motivate and influence industry to:

- spend vast sums in pursuit of business that seldom materializes in the timeframe initially envisioned, the quantities promised or within the budget profile proposed,
- institute proposal teams to research, market and develop concepts with little probability of winning a contract, and
- accept low profits and abnormally low target costs.

All of this costs money. For a business to stay viable, it must recoup these costs and earn a profit. These costs are recouped in the form of cost growth or prices that might otherwise have been lower. The latter is particularly true when capital improvements have not been made because available funds have been redirected toward commercial endeavors where more reasonable profits can be anticipated.

One way to get at the guts of the problem is to personalize it. For example, if it were my money, I would not:

- buy at inefficient rates

- permit gaps between program phases
- maintain competition beyond where it makes sense to do so
- pay for voluminous documentation just to be safe in case of later audit
- allow programs to be prosecuted without a validated cost control system in place
- shift risk unreasonably to the contractors
- allow critical, multi-million dollar programs to be managed by pitifully few persons with little business management experience with dependence on the "beltway support community" for a good deal of my program management
- attempt to manage programs effectively with little or no management reserve
- use scarce resources to develop our own system when operational systems might be acquired at less cost from our allies
- permit substantial risk in a program constrained by cost and schedule
- buy CFE when I could get a better price through GFE
- pay extra just to satisfy socio-economic goals
- generate "specious" competition or pay for data packages for future competitive "reprocurement" when it is doubtful that such reprocurement will occur.

In reality, it <u>is</u> my money and the preceding list describes actions that are all too common and that are reported in each study of the acquisition process.

Despite isolated improvements, examples abound where programs are structured and executed in certain ways because "the system" seems to demand such action. When one examines specific situations, one finds however, that"it didn't have to be done that

way." Much of what goes on we do to ourselves.

We cannot change unilaterally such things as:

- the RAN/D&F thresholds
- the $5 million multi-year termination liability ceiling
- the $2 million reprogramming threshold

We can however change the attitudes and procedures that operate within the Material Command to cause us to be inadequate business managers.

That requires not only a series of specific procedural changes but a change in attitude. Procedural changes can be legislated by fiat and we recommend that be done. Attitudinal change will be much more difficult to bring about unless we make it our first priority order of business. We recommend also that we do just that. Recommendations for each of the issues (and subissues) are set forth in Section II, Part A. This collection of recommendations is the most significant part of the report. However, there are several procedural type notions, out of the mainstream, which we have chosen to highlight as part of this summary. These are as follows:

1. Using headquarters NAVMAT ceiling, select and train a cadre of SES level business management experts and then assign them direct to SYSCOM Commanders, major PM's, DSMC and ASN staffs. Their functions would be:

a. approve acquisition strategies for the SYSCOM Commander including those which normally would go to HQNAVMAT for approval

b. chair ARB's that otherwise would have gone to HQNAVMAT

c. assure programs are in place for training acquisition personnel in good business management principles and practices

d. work to bridge the gap between contracting and project management communities.

It would be wise to rotate these executives about every two years. The person assigned to DSMC could be the Acquisition Chair. Those assigned to ASN staffs (or industry) would be on a development assignment.

2. Establish, very carefully, a "test case" where one project office in NAVSEA and NAVAIR is designated as such. With respect to each such project office carry out the following:

a. Pick a qualified contracting officer and designate him Deputy Project Manager. Require him to physically reside in the Project Office. Empower him with unlimited contracting officer authority. Groom such individual as a prospective future Project Manager.

b. Alternatively consider designating the Project Manager as contracting officer. Detail one or more nonsupervisory contract negotiators to the PM staff. Require such personnel to be located physically in the PM office.

c. Delegate unlimited contracting officer authority to the SUPSHIP/NAVPRO, etc., applicable to the aforementioned "test case" project offices.

d. Designate one member of the OGC staff as counsel to each "test case" project office. Require such designated OGC personnel to be located physically

in the PM office. Empower such OGC personnel to approve for OGC any and all actions that would normally be screened by OGC under existing procedures.

3. Establish realistic management reserves pertinent to each "test case" project. Fence such funds so that they are not subject to being "swept up" by the SYSCOM Comptroller. Empower the PM to reapply to this project at his discretion any funds that he generates from cost avoidance, cost savings, etc. Exercise the full weight of CNM authority/influence to preclude higher authority from holding hostage any funds that have been appropriated pertinent to the "test case" project office efforts.

4. Establish within each SYSCOM a project management reserve "pool" operated by the Comptroller whereby each PM has an amount "on the books" from which he can draw up to his allocated amount. Permit PMs to negotiate trades between each other so long as the Comptroller maintains the books and knows the status of each PM's management reserve. CNM ensure that such reserves are not "raided" for other purposes.

5. To the extent possible prohibit interference in project office conduct of business by outside influences such as Navy Area Audit, GAO and NAVMAT internal review personnel.

6. Strongly encourage the "test case" PM's to solicit proposals based on "stepladder" quantities and optimum rate of effort (as seen by the contending contractors).

7. Empower the "test case" PM to be the source selection authority. Encourage the PM to solicit technical proposals and eliminate X number based on technical evaluation alone. Negotiate with remaining contenders. Make award based predominantly on track record credibility cost coupled with proven technical competence.

8. Draft class determinations and findings (CD&F's) pertinent to the procurements involved in the "test case" projects. Obtain Secretarial approval of these CD&F's such that no subsequent approvals of procurement transactions pertinent to the "test case" projects are necessary.

Last: Advise the CNO and the Secretariat of the "test case" procedure and seek OPNAV/Secretariat cooperation in prohibiting program/funding turbulence involving the "test case" programs.

The preceding procedural changes can be tracked and concrete accomplishment or lack thereof should be evident. More difficult to accomplish and track is the task of altering attitudes within the Naval Material Command.

We have to somehow alter the "overprotective syndrome." Responsibility and authority are so fragmented into "protective cells" that decision making is severely slowed. At current inflation rates the constipator in the decision making process is costing us at least 1½% of the cost of whatever is being acquired for each month of delay. I am convinced that the cost of protection or "insurance" is severely out of proportion to the value derived therefrom.

Actions recommended to alter the overprotective syndrome and thereby alter the attitudes of our people are summarized as follows:

First: CNM and SYSCOM Commanders direct a campaign of delegating authority and responsibility to the lowest levels possible commensurate with the ability of specific persons involved to accommodate such increased authority and responsibility.

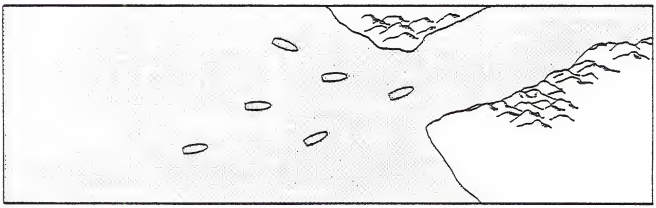
Second: Adopt a philosophy relative to weapons development/acquisition risk that defers unacceptable risk to a preplanned subsequent upgrade. (Accept less perfection in earlier time frames; but plan for and carry out feasible upgrades in subsequent time frames.)

SUMMARY

The situation the Navy faces with respect to weapons system development and acquisition can be characterized graphically by the following analogy --- where there are too many boats waiting

to pass through a narrow channel.

We must concentrate on both widening the channel and reducing the number of boats waiting to pass through.



SECTION I

REPORT

PART A — RECAPITULATION OF SALIENT MAJOR RECOMMENDATIONS FROM PRIOR STUDIES AND ASSESSMENT OF STATUS OF RECOMMENDATIONS

PART B — ISSUES

PART C — PERCEIVED REASONS FOR NONIMPLEMENTATION OF PRIOR RECOMMENDATIONS

SECTION I

PART A

RECAPITULATION OF SALIENT MAJOR RECOMMENDATIONS FROM PRIOR STUDIES AND ASSESSMENT OF STATUS OF RECOMMENDATIONS

Issue 1: Acquisition Strategy

Recommendations:	References
1. Provide adequate funding for authorized programs.	1, 3, 4, 6, 73, 74, 101, 128 207, 209, 217, 225, 226
2. Expand use of multi-year funding authorization. Raise cancellation ceiling limitations.	3, 4, 6, 11, 12 60, 107, 128, 207, 209, 214, 217, 229, 230
3. Establish firm requirements (including production quantities), inviolate except for threat change.	3, 4, 6, 12, 70, 73, 74, 102, 105, 120, 124, 127, 207, 209, 217, 226
4. Consider competition in all phases of acquisition.	1, 3, 4, 12, 74, 102, 106, 171, 209
5. Increase RAN/D&F and reprogramming thresholds.	4, 6, 12, 128, 207, 209, 217, 222, 227, 230
6. Rationalize DSARC/PPBS Processes	1, 3, 4, 6, 209, 217, 222
7. Establish contingency resources for unforeseen program issues (including deficiencies in fielded systems).	1, 3, 4, 5, 6, 12, 120, 209, 217
8. Limit FSD to systems intended to be procured.	1, 3, 4, 12, 101, 209, 217, 225
9. Consider system upgrade (including subsystems) as an alternative solution.	1, 3, 4, 5, 12, 64, 111, 115, 117, 209
10. Milestone II is significant decision point; a) overlap testing with both development and production when risk and urgency are appropriate; b) authorize high rate production at DSARC III.	4, 5, 102, 209, 217

SOME PROGRESS	ALMOST NO PROGRESS	ELABORATION
	X	Mixed Bag - Need hard data. CNM can do little more than take hard stand regards implementation of programs that are funded inadequately.
X		Could come to pass if HR 745 is adopted. Prospects for legislation being adopted are reasonably good. Need to orchestrate strategy lobbying effort. Be prepared with hard data for hearings.
	X	Still lots of Navy self-induced turbulence. Can't blame it all on OSD.
		Strong threat within Navy toward increased competition. But, many now argue that we're inducing too much "specious" competition. Thrust may be in wrong direction.
X		o 5 Jan 81 MAT 08 memo to ASN (RE&S)
	X	Lots of rhetoric - no real action.
	X	Perception is no progress. But need hard data to be sure.
X		Principle appears to be in place.
X		No data to indicate this is being done.
X		a) F-18 example (but F-18 experiencing considerable cost growth).
X		b) No experience that this is happening.

Issue 2: Faulty Initial Budgeting

Recommendations:	References
1. Increase mgt. reserves and reprogramming authority to accommodate the unexpected but statistically determinable problems that will arise.	3, 4, 5, 6, 11, 12, 112, 128, 209, 217
2. Strengthen each agency's cost-estimating capability to provide realistic estimates (including inflation or constant-year budgeting).	1, 2, 3, 4, 6, 12, 55, 74, 101, 102, 105, 115, 120, 209, 220
3. Create an environment to encourage increased realism.	3, 4, 6, 12, 112, 120, 128, 171, 207, 209
4. Fund program at program (NAVSEA) estimate: otherwise reduce scope or terminate.	6
5. Establish a realistic baseline (probable range, vice a point estimate) for total time-phased tasks.	2, 3, 101, 120

SOME PROGRESS	ALMOST NO PROGRESS	ELABORATION
	X	No hard evidence of any progress in this area
X		Except for CNM Headquarters - vertically no improvement
	X	Industry says no progress. Navy internally thinks otherwise. Probably should believe industry.
	X	Lots of lip service - little hard data to support contention Navy does this.
	X	Everyone in house claims to do this. If so, results should be more evident and they are not.

Issue 3: Program Turbulence

Recommendations:	References
1. Set realistic schedules and recognize schedule risk.	3, 4, 6, 12, 102, 112, 128, 120, 207, 209 220, 225
2. Closely control changes.	3, 6, 58, 73, 74, 107, 171, 220
3. Permit multi-year funding.	3, 4, 6, 11, 12, 13, 60, 107, 128, 209, 229, 230
4. Bar budgetary changes to major programs.	6, 13, 74, 217, 128
5. Reduce layering and formal steps in the DSARC process; clarify decision authority/ responsibility.	2, 3, 4, 6, 105, 124, 127, 207, 209, 217, 225, 226
6. Avoid program interruptions which alter the manufacturer's learning curve.	209

SOME PROGRESS	ALMOST NO PROGRESS	ELABORATION
X		Perceive same improvement. Need hard data to support.
X		FFG example -- much improved over past per BIW.
	X	No progress due to cancellation ceiling limitation of $5M. Can anticipate progress if HR 745 passes. Should orchestrate strong lobbying effort.
	X	Not implemented.
	X	No progress; if anything, the situation is getting progressively worse.
X		Some progress.

Issue 4: Capital Investment/Industrial Mobilization Base

Recommendations:	References
1. Emphasize facilities capital investment as the profit basis instead of estimated cost.	12, 60, 61, 103, 107, 128, 157, 209, 225
2. Consider allowing interest as a contract cost to encourage capital investment.	103, 107, 157, 225, 226, 128, 229, 230, 231
3. Encourage investment by: - Expediting government paying cycle - Enforcing consistent application of tailored Economic Price Adjustment clauses - Assuring FSD contractor a significant proportion of production.	11, 13, 107, 209 128, 229, 230
4. Increase emphasis on Manufacturing Technology Program and phase out obsolete machine tool base.	3, 11, 12, 13, 102, 107, 128, 209
5. Upgrade government-owned machine tool base.	11, 13, 107, 209
6. Increase emphasis on assuring effective and appropriate strategic and critical materials supplies.	11, 13, 107, 128, 209
7. DOD should confirm the number of naval shipyards required to support projected workloads, establish specific modernization objectives for each shipyard, and approve budgets for funds to accomplish these objectives.	63

SOME PROGRESS	ALMOST NO PROGRESS	ELABORATION
	X	Not implemented.
	X	No progress.
X		Some progress has been made although predominant perception is business as usual.
X		Despite ASN/CNM initiatives - little or no progress.
	X	No progress.
X		JLC effort underway - little progress.
	X	Perennial issue - never able to be resolved.

Issue 5: GFE/CFE Tradeoffs

Recommendations:	References
1. A standard system for preparing, maintaining retaining and transmitting configuration and estimating data for GFE items should be furnished.	55
2. Increase the use of standard equipment, modules, and configurations.	78, 115

Issue 6: Contract Negotiations/Proposal Evaluation/Source Selection

Recommendations:	References
1. Formulate policy to reduce downward pressures on program estimates.	1, 3, 4, 6, 12, 61, 209 (79 DSB), 218
2. Downgrade unrealistically low-priced proposals.	1, 3, 4, 6, 61
3. Eliminate procedures which lead to "auctioning" technical transfusion and "best and final."	6
4. Involve cost-estimating staff in contract negotiations.	6, 55
5. Simplify source selection procedures.	12, 65, 209
6. Place emphasis on past performance in source selection.	1, 3

SOME PROGRESS	ALMOST NO PROGRESS	ELABORATION
	X	GFE world is in disarray. Need GFE Czar in each systems command.
	X	GFE world is in disarray. Need GFE Czar in each systems command.
	X	Endemic problem - no progress.
X		Minimal progress. No broad scale implementation. Limited application/unconfirmed outcome.
X		Four-step supposed to cure this problem. Industry perceives process not being used effectively.
	X	Not aware of this being done anywhere.
X		CNM study done but hasn't gone beyond that! Perception is: cost of proposed eval/source selection is too high in relation to benefits derived therefrom. Believe decision could be made faster. Should base decisions more on past track record. Big problem. Don't have good data on track record (fragmented--no good data base available to all SYSCOMS)
	X	Little evidence to indicate this is being done routinely.

Issue 7: Contract Changes/Contract Administration

Recommendations:	References
1. Develop baseline costs; changes by written direction.	6, 58
2. Use DAR(ASPR) "changes" and "notification of changes" clause in lieu of Navy procurement circular 18.	60
3. Request fully-priced contract changes only when all ramification of change can be predicted.	60
4. Intensify training in contract administration.	61, 116, 125
5. Raise RAN/D&F, R&D/procurement thresholds.	4, 6, 12, 13, 128, 217, 230
6. Expand use of multi-year funding/authorization.	3, 4, 6, 11, 12, 60 107, 128, 207, 209 217, 222
7. Make maximum use of contractors existing management system.	3
8. Limit reporting requirements to essential management information.	3

SOME PROGRESS	ALMOST NO PROGRESS	ELABORATION
X		Perception is that this is improving. Probably as outgrowth of claims situation.
		Don't know. Need data.
		Don't know status. Need data.
		Don't know status. Need data.
X		See Issue #1-5.
X		See Issue #1-5.
X		In concurrence with established policy. Don't know real status. Need to look at number of contractors certified to 7000.2 and trends.
	X	Perennial recommendation. Almost impossible to determine status. Industry says Navy requesting far more than necessary.

Issue 8: NATO FMS

Recommendations:	References
1. Establish procedures to ensure that appropriate NATO-wide interoperability criteria and T&E requirements are included in U.S. requirements documenting element needs statements, RFP's and implementing contracts.	8, 113, 122, 207
2. For co-development and co-production of weapon systems with NATO, international competition should be the basis for international cooperation.	8, 113, 122
3. Develop expertise and data base to deal with analysis of multi-national acquisitions.	102, 122, 123
4. NATO should develop an organization which can plan and direct its standardization efforts taking into account differences in perceived weaponry needs and in cost effectiveness among NATO nations.	208
5. Consider direct sale approach for U.S. contractors engaged in coproduction programs (i.e., remove them from foreign military sales procedures).	113, 122
6. Submit coproduction Memoranda of Understanding to Congress for concurrence.	113
7. Establish executive department group to develop changes in procurement policy and practice which could facilitate international codevelopment.	122

SOME PROGRESS	ALMOST NO PROGRESS	ELABORATION
	X	Strong policy statement exists already in DODD 5000.1 not carried out. People at working level in SYSCOMS pay no attention to it. Probably just as well--they are not in position to influence degree of implementation very much. Tough problem. If you police process to make this happen, acquisition times will double again!
	X	Strong policy statement exists already in DODD 5000.1 not carried out. People at working level in SYSCOMS pay no attention to it. Probably just as well--they are not in position to influence degree of implementation very much. Tough problem. If you police process to make this happen, acquisition times will double again!
	X	
	X	
X		
	X	
	X	

Issue 9: Adversary Relationship

Recommendations:	References
1. Improve Government/contractor relationship by ennunciating aims of the "engagement concept."	6, 225, 226, 227, 228, 229
2. Emphasize teamwork/equity in acquisition process versus win-lose relationship.	2, 209, 128, 225, 226, 227, 228, 229

Issue 10: Cost Accounting Standards

Recommendations:	
1. Reevaluate cost accounting standards to eliminate unnecessarily burdensome requirements.	72, 107, 119, 128, 209, 226

Issue 11: Approval/Provisional Approval for Service Use

Recommendations:	
1. Eliminate approval for service use.	217

SOME PROGRESS	ALMOST NO PROGRESS	ELABORATION
X		
X		
X		
	X	Not an action that can be taken by CNM

Issue 12: Utility of 6.1, 6.2 Programs

Recommendations:	References
1. Terminate 6.2 program which do not have a definite mission need.	4

Issue 13: Decision Delays

Recommendations:

1. Management systems should be streamlined and external demands should be reduced to enable personnel to concentrate on the important problems.	65, 226
2. Strip out staff elements which have become operational.	6
3. OSD pull back from managing service detail.	6, 226

Issue 14: Management Reserves

Recommendations:

1. Establish managment reserve account for each Project Manager.	2, 4, 6, 11, 12, 112, 126, 127, 128

SOME PROGRESS	ALMOST NO PROGRESS	ELABORATION
X		
	X	
	X	
	X	
	X	

SECTION I

PART B

ISSUES

1. ACQUISITION STRATEGY

Issue Title: 1.a. Faulty Business Strategy

Problem Description: Many Cost Growth problems occur because of an ill conceived business acquisition strategy

Conclusion: Definitely a problem. Specific examples:

contractors "buy in" during development with plans to recoup later

carrying multiple contractor involvement too long during development

competition forcing contractors to stretch technology over optimistically

competition forcing low early production price quotes which later increase significantly

overly optimistic business base for distribution of contract overhead

Recommendation: Acquisition strategies must be structured and reviewed more carefully. A109 suggests competition

only where it is appropriate and helpful. The wisdom of carrying multiple contractors during development, particularly when the concept and the technology being pursued are similar, is highly questionable. On the other hand, competition among technologically different concepts in pursuit of a mission need has merit. Competition as a cost determinant during advanced development is situational; in any event, more thought about the business situation needs to be done in structuring and implementing business strategy, contract negotiations, and contractor performance monitoring.

Recommendations

- issue CNM directive for Acquisition Strategies
- institutionalize the process for development, review and approval of acquisition strategies to assume business management is being carefully integrated.

- Assign a CNM senior civilian (charged to HQNAVMAT ceiling) assigned to each SYSCOM commander who would:

  - expedite strategies through system and take approval action for the CNM

  - act as an acquisition and business advisor to the SYSCOM Commander, and institute business management training programs within the SYSCOM.

  - become a repository of NAVMAT-wide corporate knowledge

  - rotate every two years among SYSCOMS/major PMs/Navy Secretariat/DSMC

Backup Material:

. Industry Interviews

. OMB Circular A-109 (Ref. 1)

. DSB 1977 Summer Study (Ref. 4)

. DSB 1979 Summer Study (Ref 12)

. RAND Report: Acquisition Policy Effectiveness (Ref. 74)

. GAO: Acquisition Practices (Ref. 106)

Issue Title: 1.b. Multi-year advantages not exploited.

Problem Description: Multiyear procurement is not effectively utilized due to congressionally mandated termination liability ceiling of $5M.

Conclusion: Problem is well understood and documented in various reports. HR 745 has been introduced to solve the problem.

Recommendation: Lobby strongly for passage of HR 745 (submitted 6 Jan 1981).

Maximize use of technique when compatible with business strategy.

Backup Material: FMC material on cost of program stretch-out and low production rate.

HASC Report (Ref 128)

Industry Interviews

DSB 1977 Summer Study (Ref. 4)

DSB 1979 Summer Study (Ref. 12)

NMARC (Ref. 6)

General Slay's testimony (Ref. 107)

Defense Industry, J. Gansler (Ref. 214)

Issue Title: 1.c. OMB Circular A109

Problem Description: There is a perception among project managers that OMB A109 as invoked by DODD 5000.1 requires programs to be planned according to serial milestones, and that up-front competitive concept formulation should involve the maximum number of contractors as possible within the available resources. Ther serial approach is very time consuming, competition especially throughout the entire development period very expensive, and the true cost of concept formulation usually substantially exceeds available funding. Further, for a given competitive concept formulation strategy we seldom properly fund a credible program and therefore decrease the probability of defining a least life cycle cost set of alternatives. Our experience with A 109 programs has been dismal--money has been wasted with programs cancelled and others drastically restructured.

Conclusions:

- A-109 is not intelligently implemented (we have no successful A109 programs)
- We waste money through early program turbulence caused by pseudo competition

Recommendation: That CNM firmly articulate, in a widely distributed

set of management principles, the following:

PM's ensure that required front-end investment is or will be forthcoming when embarking on a program structure that calls for an extensive competitive concept formulation

At no time should PM's take it upon themselves to force-fit program planning to an unrealistic profile, particularly one where up-front funding is inadequate

PM's should consider a limited concept formulation involving industry and government leading to a specific concept for pursuit in the next phase

Maximum tailoring must be pursued, for example: From concept formulation, proceeding directly into Engineering Development with provision for limited production preceeding Milestone III

Competition should be applied only when there is clear benefit--therefore its use should be justified. It should never be used just for appearances sake.

Backup Material: DSB Summer Study 1977 (Ref. 4)

Report of the Commission on Government Procurement

(Ref 2)

Issue Title: 1.d. Inadequate specifications

Problem Description: Industry alleges that Navy RFPs are frequently neither clear nor concise. They may be far too detailed, confused, or lack clarity. This results in cost proposals that inherently have a wide variance between what industry is selling and what the Navy thinks it is buying.

Conclusion: Frequently a problem.

Recommendation: Strengthen RFP review process at SYSCOM levels.

SYSCOM acquisition executives, (e.g. SEA 90 AIR 05, ELEX 05) must institute periodic RFP review and approval procedures to assure RFPs define specific products for which reliable industry cost proposals can be prepared. HQNAVMAT should police on a sampling basis.

Backup Material: Report of Commission on Government Procurement

Industry Interviews

Issue Title: 1.e. Risk assessment/rewards

Problem Description: Industry alleges that quite often rewards (profits) are not commensurate with risk in government programs, and that the more risk inherent in the contract, the higher the contract cost must become. Therefore it is axiomatic: Risk is money. Further, industry expresses concern with the AF use of total package procurement and use of FFP contracts as an attempt to place almost all the risk upon the contractor. As a counterpoint, some industry reps assert that contract type really makes no difference and that other factors are more significant.

Conclusion: This issue is probably industry dependent, however, evidence suggests that anticipated profits are not commensurate with risks; substantial initial risk is reflected by higher costs and is a contributor to schedule delays.

Recommendation:

- When feasible, defer high-risk elements to pre-planned product improvement.
- Provide PM management reserve so that risk areas can be managed.
- For identified high risk areas, carry in parallel,

a fall-back position of low risk but of lessor capability. Budget accordingly.

- Source selection criteria should put technical risk in its proper context.

- Whenever feasible shift toward greater use of award fee type contracts.

Backup Material

. NASA and U.S. Army experience with award fee type contracts.
. GAO Reports (Ref 103)
. Gen. Slay's testimony (Ref. 102)
. DSB 1979 Summer Study (Ref 12)
. DSB 1980 Summer Study (Ref. 11)
. The Defense Indistry, J. Gansler (Ref. 214)
. Industry Interviews

2. FAULTY INITIAL BUDGETING

Issue Title: 2.a. Government inability to handle higher than budgeted inflation (inflation rate stipulated by OMB)

Problem Description: OMB specifies an inflation rate that executive agencies must use for budget-planning purposes. In recent years this planning rate has been less than the actual inflation rate as measured by standard indices (e.g. CPI). This has led to budget dollar figures being less than actual dollar requirements. This shortfall is aggravated because DOD has apparently been experiencing actual inflation significantly greater than that measured by the CPI.

Conclusion: OMB-mandated rate causes an understated program budget baseline and hence is a significant part of program cost growth.

Recommendation: Use management reserve for accomodating variance between actual inflation, and OMB rates. Expedite contract turn-on as soon as possible to avoid impact of continuous inflation.

Backup Material: . OMB Circular A-109 (Ref. 1)

- 1972 COGP (Ref. 2)
- DSB 1977 Summer Study (Ref. 4)
- DSB 1979 Summer Study (Ref 12)
- NMARC (Ref. 6)

Issue Title: 2.b. Self Fulfilling Prophecy Syndrome

Problem Description: Subject to conditions of the competitive environment, contractors propose to their perception of what is available in the budget. Therefore the budget becomes a self fulfilling prophecy. If it is too low, cost growth is inevitable. If it is too high, the proposed effort may be overstated. There are government officials who feel that lower budgets will tend to discourage bids at higher prices and overtly budget low for this and other reasons (e.g. government program "buy-in").

Price is a function of many factors: labor and material, overhead, G & A, facilitazation, IR&D/B&P, profit. In order to meet a low budget, the contractor has some latitude to adjust price dependent upon contract type. For example for FFP all of the foregoing can be altered; for cost reimbursable contracts, overhead, G&A, IR&D/B&P flexibility is constrained.

For a variety of reasons, contractors may bid a price below their own costs which puts them in a loss position. Eventually this loss must be recovered in the form of cost growth, contract changes, cost of doing business on other programs (e.g., commercial work), decrease in capital investment, or loss of financial stature.

Conclusion: The self fulfilling prophecy is real.

1. A high budget profile results in higher initial program costs but probably lower cost growth throughout program execution.

2. A low budget profile is likely to result in lower contract expenditures at the outset at the expense of large potential cost growth later in the program and therefore a higher probability of program cancelation. A number of recent Navy programs can be cited as examples.

Recommendation:

- CNM issue a management principle to budget to the most realistic funding profile.

- That NAVMAT procedures be set up to insure that: (1) the Navy's internal cost estimates be as accurate as possible and (2) that these accurate

cost estimates be available to all concerned parties (cost evaluators of bids, contract negotiators, MAT 016, MAT 08 etc.). The ultimate goal is to discipline the system so that all Navy parties strive to obtain for the Navy the best possible costs estimates.

Backup Material:

Issue Title: 2.c. Proposal evaluation/source selection driven by price competition

Problem Description: Industry strongly believes that price is the dominant factor in source selection and therefore is compelled to bid low. This practice is termed "buy-in" and leads to artifically low contract prices which inevitably result in cost growth (in a fashion analagous to that described in issue 2.b.).

Conclusion: Industry is convinced of their perception and they must be persuaded that price is not the dominant selection factor for development contracts. This should stimulate more realistic cost proposals.

Recommendation: 1. Strengthen selection criteria to provide greater recognition for good past cost performance.
2. Modify criteria to substitute cost credibility for absolute cost.

3. An example of departure from past cost emphasis could be in the use of the following as selection criteria:

- technical approach
- cost credibility
- past performance

. schedule realism

. management approach

. facilitization plans

Contract negotiations should be based upon a knowledgeable Navy cost estimate. Significent contractor variances must be carefully rationalized.

Backup Material: OMB Circular A-109 (Ref. 1)

DSB 1977 Summer Study (Ref. 4)

DSB 1979 Summer Study (Ref. 12)

NMARC (Ref. 6)

Industry Interviews

Issue Title: 2.d. Too many programs/resources spread too thin

Problem Description: Sponsors' attempt to fund too many programs within a constrained budget. This results in funding profiles which are structured to keep programs funded at the keep-alive level, albeit a grossly diseconomic strategy.

Conclusion: This practice is a prime cause of cost growth through arbitrary and diseconomic budget profile as discussed in preceeding issues.

Recommendation: SYSCOMs must develop realistic cost projections. CNM should permit program execution only within realistic funding profiles. This will require identification of low priority programs as candidates for reprogramming by CNM.

Backup Material:

Industry Interviews
OMB Circular A-109
DSB 1977 Summer Study (Ref. 4)
DSB 1979 Summer Study (Ref. 12)
GAO Reports (Refs. 105, 111 through 127)
General Slay's Testimony (Ref. 107)

Issue Title: 2.e. Design to Cost/Affordability

Problem Description: While design-to-cost as a concept appears to have merit, its principles have not been uniformly or effectively applied within the Naval Material Command. However NAVMAT experience has not conclusively substantiated its value. A JLC committee is meeting to review this issue at present.

Conclusion: Design to cost has not been adequately exploited within NAVMAT.

Recommendation: 1. Review results of JLC committee effort and adjust NAVMAT policy accordingly.

2. SYSCOMs/PMs assure that DTC has been considered in the acquisition strategy, and is used when trade-offs between cost and performance or different concepts for the same performance can be made. This implies use of the concept early in the acquisition cycle. Therefore the trade-off process must be able to accommodate uncertainty in projected production quantities.

3. HQNAVMAT, on a sampling basis, monitor NAVMAT performance in the DTC area.

3. PROGRAM TURBULENCE

Issue Title: 3.a. Funding/Perturbations

Problem Description: Because of the annual budgeting cycle and various perceptions of "need", program buy quantities and schedules change frequently from year to year and sometimes change within a particular budget year. Also, funding is changed throughout the year because of defferals and budget reductions and reprogramming actions instituted at various government levels.

Conclusion: Funding/perturbation clearly drives up program cost. A subset of the issue is delay and disruption. A secondary effect is a disincentive for capital improvement due to the inability to reliably predict future market. This negatively impacts the industrial base.

Recommendation: CNM take a firm stand with OP-090 to protect program funding from perturbation.

Require NAVMAT staff to resolve all OSD/ASN deferrals before the beginning of the fiscal year.

Delegate 70-80% of ACAT 1, 2 and 3 programs to the CNM as acquisition executive in order to increase

efficient execution of authorized programs.

Backup Material

DSB 1977 Summer Study (Ref. 4)

DSB 1979 Summer Study (Ref. 12)

NMARC (Ref. 6)

General Slay's Testimony (Ref. 107)

Senate Report (Gov't. Ops.)(Ref. 101)

HASC Report (Ref 128)

Industry Interviews

Issue Title: 3.b. Peaks and Valleys in Contractor Workload

Problem Description: Industry argues that changes and uncertainties in program funding lead to workload fluctuations resulting in higher costs, wasted resources (due to deadtime), and a lack of incentive to invest in capital equipment. Also, Navy motivates the contractor to plan the program to fit "non-linear" budget profiles, thereby making peaks and valleys an inherent part of the program.

Conclusion: Substantial evidence supports the contention that workload fluctuations are a major contributor to cost growth. Fluctuations disrupt the entire planning, program execution process and contribute to productivity loss.

Recommendations:

- 3.a recommendations apply.
- Assuming ability to award multiyear contracts, solicit proposals from contractors based on varying workload schedules (Have them price out the work at a rate that fits their capacity best). Make that rate a key evaluation factor in competitive negotiations.
- Capacity and efficient production rates are

different for each contractor. They must be optimized individually as a function of present and planned workload.

Backup Material: Industry interviews

Issue Title: 3.c. Uneconomical Production Rates.

Problem Description: "Buy" rates are very often so low that the contractor can not achieve the most economical production. As a result, unit costs are frequently higher than they should be. Causes of this problem include Congressionally mandated production quantities, "Warm" production line budgeting, and poor Navy planning, especially during transition from development to production.

Conclusion: This is a real problem that is conceptually different than the problem of fluctuating buy rates. Here the argument is that higher annual buy rates would lead to lower unit costs. Much evidence supports this thesis.

Recommendation:

- Base budget projections on economical buy rates and program accordingly. Immediately apply to expendable weapons for which the Navy is significantly below inventory objective.

- Base budget projections on economical buy rates and program accordingly.

Backup Material: DSB 1977 Summer Study (Ref. 4)
DSB 1979 Summer Study (Ref. 12)

DSB 1980 Summer Study (Ref. 11)

NMARC (Ref. 6)

General Slay's Testimony (Ref. 107)

GAO Reports (Ref. 103, 111, 127)

Industry interviews

4. CAPITAL INVESTMENT/INDUSTRY BASE MOBILIZATION

Issue Title: 4.a. Cost of money

Problem Description: Within the current high interest economy, disallowance of interest as an allowable cost reduces profit below that previously experienced by defense industry, especially since profit guidelines have not changed. This has two implications:

- shift from defense to commercial business
- decrease in available funds for facilitazation.

Conclusion: The situation is clearly inducing an adverse effect on the defense industrial/mobilization base. Needed defense-oriented capital formation/investment is lagging substantially behind private sector investment.

Recommendation:

. Navy request OSD to recommend legislative actions to make interest which is allowable to facilitization an allowable cost; also draft a bill accordingly.

. CNM issue an NCD to consider facilitization during profit negotiations.

Backup Material

- Previous ASPR cases on changing legislation to permit interest to be regarded as an allowable cost.
- GAO Reports
- General Slay's Testimony (Ref 10)
- DSB 1979 Summer Study (Ref 12)
- DSB 1980 Summer Study (Ref 11)
- Industry interviews
- Profit 76 study
- DSB 80

Issue Title: 4b. On again/off again programs

Problem Description: On again-off again programs add substantially to the cost of doing business (B&P, investment costs, planning and marketing) with the government. Millions of dollars, both industry and government, are consumed pursuing programs with a low probability of ever getting completed. An analogous situation exists where the government advertises potential new starts that never materialize or solicits "unsolicited proposals."

Conclusion: Truly a problem and must be solved as part-and-parcel of bringing greater stability and discipline to the acquisition process.

Recommendation: CNM should not permit advertising or execution of programs lacking either formal documentation or funding.

Backup Material:

- Industry interviews
- Defense Industry, J. Gansler (Ref 214)

Issue Title: 4.c. Productivity Enhancement

Problem Description: Industry argues that as long as profit rates are low on defense work that budget projections are unstable, and the government refuses to make long term committments via multi-year contracts, then it is risky to invest company funds in capital equipment. Also, the Navy has not been effective in implementing manufacturing technology programs, investing in new equipment for NIROPS, or motivating improvement through the Value Engineering Program. One reason why profits, as a return on investment, is so high is that investment is so low!

Conclusion: Argument is basically correct.

Recommendation: Revitalize the Navy Value Engineering Program in some form (see issue 7.e)

CNM continue current MT initiatives

CNM develop a plan for NIROP facility improvement and implement in a timely and well-supported fashion.

Backup Material GAO Reports
General Slay's Testimony (Ref 102)
DSB 1979 Summer Study (Ref 12)

DSB 1980 Summer Study (Ref 11)

The Defense Industry, J. Gansler (Ref 214)

Industry Interviews

Issue Title: 4.d. Inventory versus mobilization capability

Problem Description: Lack of funding resources causes defense executives to make resource allocation decisions based on maximizing short range payoff. Most military managers feel obliged to invest in current inventory (expendables and finished goods) rather than the mobilization base (plant/equipment) for longer term payoff.

Conclusion: Short range payoff decision making contributes to overall program cost growth because plant and equipment deteriorates further and productivity either remains constant or declines.

The outlook for increased funding directed toward plant/equipment modernization is not bright.

The lack of funds earmarked specifically for plant/equipment modernization means that short range, current inventory decisions must serve, where feasible, as a source of funding to modernize plant/equipment.

Recommendation: Ensure that plant/equipment modernization considerations are factored heavily into decisions concerning investment in current inventory needs.

Address in acquisition strategy

Pursue support improvement for NIROPS (discussed in preceding issue)

Pursue investment tax credits

Manufacturing technology (discussed in preceding issue)

Backup Material: HASC report on Defense Industrial Base (Ref 128)

The Defense Industry, J. Gansler (Ref 214)

Industry Interviews

5. GFE/CFE TRADE OFFS

Issue Title: 5.a. Contractor Warranties

Problem Description: Evidence exists that warranty opportunities are not being exploited.

GFE/CFE tradeofs if not skillfully done can operate at cross purposes with contractor warranty provisions.

Conclusion: Navy is only moderately effective in evaluating and administering GFE/CFE tradeoffs with respect to warranty considerations.

Point of greatest leverage to perform GFE/CFE tradeoffs effectively is at stage of developing and approving the program acquisition strategy.

Recommendation: SYSCOMs/PMs ensure that warranty considerations are factored heavily into GFE/CFE tradeoff decision making process, reflected in the acquisition strategy, and factored into contracts as appropriate.

Backup Material: USNPGS Montery papers on Reliability Improvement Warranties (RIW).

GAO Reports (Ref 115)

Issue Title: 5.b. Storage/Obsolesence Costs

Problem Description: GFE/CFE decisions if not made properly and on timely basis can cause cost growth through storage/obsolesence cost factors.

Conclusion: Cost growth attributable to GFE/CFE storage/obsolesence factors can be minimized through improved planning and accelerated decision making.

More timely/accelerated decisions can occur if fewer persons are involved in the decision making process.

Recommendation: (1) Address effective planning for this issue in acquisition strategy.

(2) Speed up decision making by granting contracting officer authority to some project managers this is described in detail in the executive summary. This could be tested on a pilot plan basis with SYSCOMs and MAT 08 tracking progress and success of pilot plan.

(2) Centralize decision making to a greater extent within project offices. (Reduce the number of people involved in any given decision trade off session.)

Backup Material: NMARC (Ref 6)

Navy Ship Process Study (Ref 60)

Industry Interviews

Issue Title: 5.c. System/Subsystem Design Drivers and Total System Integration

Problem Description: System/subsystem tradeoffs are among the most difficult of those involved in developing and acquiring weapon systems. Proper trade off decision making entails a full understanding of the pros and cons of subsystem design driving system design. Many persons who should, do not understand fully such issues and trade offs.

Decisions are made based on less than adequate data and/or understanding of the issues/tradeoffs; and costs are incurred that might have been avoided. Quite often, when system integration has been contracted out, the PM tends to lose sight of many detailed issues which if assiduously managed could avoid cost growth.

Conclusion: Certain cost growth can be avoided/minimized through improved planning, enlightened and accelerated decisionmaking.

More timely, accelerated decisions can occur if fewer persons are involved in the decision making process.

Recommendation Centralize decisionmaking to a greater extent within

project offices and avoid contracting-out of analysis for subsystem and system integration trade-offs; eliminate supervisory layering; assure PM/acquisition managers report through the most austere chain-of-command.

The acquisition strategy should specifically address the preferred approach to systems integration.

Encourage selection/decisions based on analysis of military utility compared to life-cycle cost.

Issue Title: 5.d. GFE and Standardization

Problem Description: Cost growth has occurred or costs have been incurred needlessly due to faulty GFE/CFE standardization decisions.

Conclusion: This complex issue is often neglected in favor of expediency to simplify project management and get on with other program problems. It is easier to make something CFE than to go through the effort of developing a standard piece of GFE. However, the advantages of GFE are many:

(1) The government does not have to pay the additional G&A and profit levied by a prime contractor if the item were CFE (the government costs associated with procurment of GFE are acknowledged as somewhat offsetting).

(2) The GFE can easily be standardized with all of the attendent benefits that accrue, e.g.

(a) Standard documentation

(b) Ease of training

(c) Simplification of the logistics

support base.

(3) Risk in overall system design is significantly decreased since the prime contractor is dealing with a known entity. He can focus attention on those parts of the system which indeed are the high risk areas. Significant cost savings can accrue by adopting a policy which favors more GFE and standardized product lines. Savings will accrue: on prime contracts due to avoidance of G&A/profit on what would have been GFE; and as a result of decreased contractor technical risk. Indirect savings will accrue relative to simplification of logistics support and military training.

Recommendation: CNM adopt a vigorous policy of GFE/standardization for multi-application items to be produced in high quantity. Establish policy as a CNM objective with quarterly progress reporting required. Police implementation through review of APs/Acquisition strategy documents.

Backup Material:

- Report of the Commission on Government Procurment (Ref. 2)
- GAO Reports (Ref. 111, 112, 115)
- NRAC (Ref. 78)
- Industry Interviews

CNM Issue Title: 5.e. Data Procurement

Problem Description: Extra cost results from specification and procurement of unnecessary data. Mil specs are specified when commercial practice might suffice, and extraordinarily detailed data is procured based on the presumption that it is needed for reprocurement from a subsequent, "second" source. Yet the deliverables are seldom reviewed in detail, or accurate to the extent that they can be used for reprocurement of identical items.

Conclusion: Tradition concerning procurement of detailed data contributes to program cost.

Potential Cost can be avoided/minimized through improved understanding of the tradeoffs involved and through rational treatment of the issue during development of the basic acquisition strategy.

Recommendation: SYSCOMs/PMs adopt philosophy that it is better to err on side of acquiring too little data rather than too much, i.e. "zero base" the data package.

Backup Material: Report of the Commission on Government Procurement (Ref. 2)

. NAVMAT Industry Roundtable (Ref. 3)

- Defense Industry, J. Gansler (Ref. 214)
- Industry Interviews

6. Contract Negotiations, Proposal Evaluation, and Source Selection

Issue Title: 6.a. Previous cost experience is not usually used by negotiating team

Problem Description: Problem is twofold: (a). hard data are not available or (b) unused if available. In either event, contract terms, costs, prices are not negotiated as expertly as they should be.

Conclusion: The problem is real and can be fixed.

It is a management problem that the SYSCOMS work on continually but have yet to solve satisfactorily.

Recommendation: Initial negotiating position should be based upon a knowledgeable cost analysis which uses previous cost experience as a major influence. Policy should be enforced (policed) in prenegotiation clearance review by CNM or SYSCOM staff as appropriate.

Backup Material: Interviews with: Government Personnel (HQ's, Industrial Reps., etc.) Industry Personnel

Issue Title: 6.b. Government negotiating teams not as well prepared as industry in area of cost and pricing analysis.

Problem Description: Personnel system generally precludes staffing Navy contracting offices with personnel of grades and talent comparable to industry counterparts with whom they must deal. The general impression among government and industry is that Navy contract negotiators have declined in expertise in the area of cost and pricing analyss and equitable adjustment capability.

Conclusion: Evidence indicates that this is a real problem that needs treatment.

Recommendation: Increase use/number of non-supervisory contract negotiatiors.

Educate contract personnel regarding economics of capital investment,profit generation, and cost analysis. Integrate this aspect into the MPS objectives.

Backup Material: Report of Commission on Government Procurement (Ref. 2)

Profit 76 (Ref)

NAVAIR paper on non-supervisory contract negotiators (1978) (Ref.)

Interviews with government and industry contract personnel

Issue Title: 6.c. Undue focus on profit when labor and material are far more important cost drives.

Problem Description: This situation contributes to cost growth in a tangential way. One can argue that government negotiators take a narrow view toward industry's needs/goals concerning capital investment and profit. By concentrating negotiations on profit, they drive profit down unreasonably, thereby impacting negatively the entire capital investment picture upon which a healthy defense posture depends.

Conclusion: Attitudes and actions of contracting personnel in the government need to be altered toward recognizing how the incentives of profit and capital investment in a private enterprise system really work.

Recommendation: Establish as an element of the overall MBO program. Establish and carry out an appropriate training program.

Backup Material: Commission on Government Procurement (ref. 2)
Industry interviews
Profit 76

Issue Title: 6.d. Profit and G&A pyramiding in subcontract area.

Problem Description: Profit and G&A pyramiding occurs when a prime contractor extensively subcontracts. Subcontracts can be for material, labor, or other services. This issue also bears on the acquisition strategy for the question of Prime/Sub versus associative contractors for large complicated programs. One must recognize that since associative contractors usually require a system integrator, the costs of the Prime/Sub versus associative arrangement could very well be equivalent. To ameliorate the pyramiding problem, primes could procure material for their subcontractors

Conclusion: For most situations, this issue is not considered to be a significant total cost driver. Efforts to restrict subcontracting may be self-defeating in the larger context of cost growth. However, economic efficiencies may be gained when GFE is used, or when the prime provides subs with material in a "GFE" fashion. Economies to be gained must be carefully calculated, and recognized as situational, before prime versus associative decisions are made. Also, contractor make or buy proposals must be more than superficially reviewed as part of to the contracting process.

Recommendation: Acknowledge issue as situational and factor with acquisition strategy; assure make or buy plan makes sense.

Backup Material: Commission on Government Procurement (Ref. 2)
DSB 1979 Summer Study (Ref. 12)
DSB 1980 Summer Study (Ref. 11)
General Slay's Testimony (Ref. 107)
HASC Report (Ref 128)
Defense Industry, J. Gansler (Ref 214)
Profit 76 (Ref.)
Industry Interviews

Issue Title: 6.e. Improper use of DCAA/DCAS evaluations.

Problem Description: Contracting community will not make a move without DCAA/DCAS input. DCAA/DCAS input takes undue amount of time, is costly, and often perfunctory in nature.

Contracting community frequently asks for "full blown" reports out of DCAA/DCAS when a much less detailed "bring up" report would suffice. (A "bring up" report is one that "brings one up to date" from the time the last full blown report was done).

The contracting community is often more concerned with playing it safe and covering all bases than getting on with it. There is an "overprotective" syndrome at work in most contracts shops.

People do not get kudos or promotions by shortcutting the system. When they try, they are accused either of being in the pocket of some contractor who will benefit, or as being reckless. Consequently, the itme it takes for contracting is lengthened. Since time is money this situation contributes to higher price.

Conclusion: There is no real sense of urgency or responsiveness that can be observed (lots of frenetic activity but

lots of wheel-spinning at same time).

Recommendation: Reduce reliance on DCAA/DCAS and substitute increased responsibility and authority on the part of contracting officers.

Move toward making contracting officers exert more decision-making authority vice coordinating the opinions and input of scores of other people.

Accelerate decision making by reducing the number of persons involved in any single decision making situation.

Establish the above as elements of the overall MBO program. Track progress, promote the competent and fire the incompetent.

Backup Material: Industry and NAVPRO interviews.

Issue Title: 6.f. Accelerate Proposal evaluation time.

Problem Description: Long, drawn out proposal evaluation cycles place contractors in limbo position of having to either disband the team that has been formed or hold it together in anticipation of contract award, spending B&P or company funds. Most RFPs require the winner to hit the ground running upon award and, as a result, subsequent schedule dates are generally optimistic -- which does not accommodate much start up slippage.

Conclusion: The situation is common and is a hidden driver of cost growth.

Recommendation: Cut proposal evaluation times by establishing a CNM goal to complete proposal evaluation and make an award in period of time equal to time contractors are given to prepare proposals. (Now it frequently takes two or three times longer to evaluate the proposals than it did to originate them.

NAVMAT staff track progress and report to CNM during corporate reviews.

Where politically prudent, streamline source selection process; e.g., make chairman SSEB the SSAC

or make chairman SSAC the SSA.

Backup Material — Interviews with government and industry contract personnel.

7. Contract Changes/Contract Administration

Issue Title: 7.a. Timely adjudication of changes

Problem Description: Particularly in shipbuilding in particular, the prime contract is estimated and priced out down only to about the third level of a 7 or 8 level work breakdown structure.

When subsequent changes occur that affect levels of the work breakdown structure below that for which estimates were made originally, there is no baseline against which to negotiate/price out the change. Adjudicating the changes that do occur is a time consuming process. This is a problem that can consume undue amounts of analysis and administrative time that in the final analysis is probably non productive. The issues of "ripple effect" and delay and disruption are involved. There are scores of attorneys both in industry and government who derive their living from trying to solve (or not solve) this problem. This all adds to cost growth in one way or another -- too often it shows up in the form of a claim after the fact.

Conclusion: This is a real problem that needs treatment.

Recommendation: SYSCOMs enforce policy of adjudicating changes as quickly as possible. Agree on an amount, put it to bed and get on with it.

In order to avoid changes being compounded, delegate SUPSHIPS and Field reps more authority to resolve and approve changes.

Use technique of government agreeing to make fast decision and pay for change quickly in return for contractor's releasing government from any subsequent claims derived from that change.

Backup Material NAVSEA contract Administration manual (Engagement philosophy).

NAVMAT study on cost of pricing out changes (1970).

Issue Title: 7.b. Constructive changes (volume of incidence and level of organization).

Problem Description: Constructive changes are informal directions, given to the contractor upon which he acts and subsequently charges the Navy for doing so!

Changes are inherent in the way the Navy does business. When they occur they add up to cost growth in the form of adjudicated changes or claims.

Long experience demonstrates that it is unrealistic to assume that constructive changes can be totally stopped.

Conclusion: Management attention should be directed toward adjudicating such changes quickly so that the cost associated with the changes is not compounded with passage of time, and that the Navy is not put in a position of accomodating a change which is not in its best interest.

Recommendation: Grant contracting officer authority to certain project managers for adjudication of claims and affecting changes below some reasonable threshold.

Delegate increased contracting officer authority to

SUPSHIP/NAVPRO Administrative Contracting Officer to adjudicate changes on the spot. For those changes that could have significant impact, allow the field ACO to obtain a verbal approval.

Backup Material: NMARC study (Ref. 4)

Report of Commission on Government Procurement (Ref. 2)

NAVAIR paper non-supervisory contract negotiators (Ref.)

Industry Interviews

Issue Title: 7.c. Delay, disruption and ripple effect (especially in shipbuilding).

Problem Description: Delay, disruption, and ripple effect occur most frequently in shipbuilding when the shipbuilder is constructing several ships at once. When the Navy mandates a change to one contract, the contractor frequently shifts work force (certain skill trades) from one ship to another which impacts both contracts. The net effect is for the Navy to be charged for delay, disruption, and ripple effect against contract "B" due to changes mandated against contract "A".

Conclusion: The only practical solution to minimizing delay, disruption and ripple effect is to absolutely minimize change orders. When change orders must be issued they should be handled in the following order of procedural preference:

First Preference: Preprice the change (agree formally on the price before commencing work).

Second Preference: Establish a ceiling price to hold costs in check while negotiating/adjudicating a

formal priced change order.

Third Preference: Accumulate a group of changes and adjudicate them as a package or "batch".

It is concluded that a preponderance of changes are handled under the second or third preference cited above.

The longer a change situation goes unadjudicated the harder it is to adjudicate and the greater the real or potential cost growth.

A substantial backlog of unadjudicated changes remains unchanged at most offices charged with administering contracts.

Recommendation: Delegate contracting officer authority to the maximum extent consistent with capabilities of persons so designated.

Implement improved procedure for spotting and reducing the size of backlogs consisting of unadjudicated change orders. (Consider roving "clean up team" approach).

Backup Material: NAVMAT change pricing study 1970 (Ref.)
Ship Process Imp. Study (Ref. 60)
Industry Interviews

Issue Title: 7.d. Cost growth as a function of unknown unknowns (UNK/UNKS).

Problem Description: Certain changes are driven by bonafide UNK/UNKS that simply cannot be foreseen. Provision must be made to accomodate unforeseen change, particularly during development. When these UNK/UNKS become known, the PM must have the flexibility to exercise management prerogative to quickly resolve the issues and keep the program on schedule. Without this opportunity, time is consumed in an effort to locate funds; the program is delayed in schedule; and overall program costs increase, thereby compounding the original problem.

Conclusion: Management reaction can be speeded up by the use of adequate management reserves, thereby avoiding schedule delays and attendant cost growth.

Recommendation: Fix the management reserve problem (see issue #14); CNM articulate policy that adequate management reserves are included and justified in program budgets.

Backup Material Commission on Government Procurement (Ref. 2)
DSB - 1977 Summer Study (Ref. 4)
DSB - 1979 Summer Study (Ref. 12)

DSB - 1980 Summer Study (Ref. 11)

NMARC (Ref. 6)

GAO Reports (Ref. 112, 126, 127)

HASC Report (Ref 128)

Industry and Government Interviews

Issue Title: 7.e. Value engineering

Problem Description: The Navy's VE program is essentially non-functioning.

Administrative times to process VECPs are excessive. As delays inhibit submission of VECPs, they become a demotivator of the program..

Conclusion: The Navy, by its inaction, effectively has nullified potential cost savings available through the VECP process.

Recommendation: Streamline and revitalize the VECP program. Cost savings should be defined by the VECP in terms of Navy decision dates so that the cost of decision delay is evident. However, as a minimum, direct that action on VECPs be taken within 30 days after receipt.

CNM delegate approval authority to lowest practical level (SYSCOMs or field)

Backup Material: Industry and Government Interviews

Issue Title: 7.f. Navy Overhead cost of Contract Administration (audits, preaward surveys etc).

Problem Description: . The administrative requirements leading to award of a contract or adjudication of a change order are allowed frequently to assume an importance that is not proportional to the end product/contract effort concerned. (The cost of processing the contract or the change order can exceed the cost of the hardware effort involved).

Conclusion: The solution does not lie in adding more administrative people to handle the administrative workload (They create their own workload to a certain extent)

The solution lies in delegating authority/responsibility to the lowest practical levels so decisions are made more rapidly and on the spot

Recommendation: CNM direct a review of delegated authority and establish a program to selectively increase level of authority of ACO's in the field.

Backup Material: Industry and Government Interviews

8. NATO/FMS

Issue Title: 8.a. Foreign Armaments Collaboration

Problem Description: The Navy does not realize potentially substantial benefit (except for economies of scale realized in FMS cases) from doing business with friendly foreign nations. Our NATO allies have demonstrated the ability to innovate and rapidly deploy new systems. To avoid loss of cooperative opportunities, the following areas deserve particular attention:

a. use of the foreign technology base and R&D;

b. adoption of foreign systems already deployed;

c. reduction of overhead (logistics support) as a result of standardization;

d. creation of a truely competitive environment wherein there are both multiple suppliers as well as multiple customers.

e. co-development and co-production, however, interviews and experience indicates that co-development and perhaps co-production are neither time-inefficient nor economic, and that only item (b) has merit in this regard.

Conclusion: There is no real committment within the Navy,

perceived by acquisition managers, to entertain foreign armaments collaboration in basic program planning or execution. The business advantages of such collaboration are neither understood, determined, or factored into the program review process at any level. Nor does the requirements setting process motivate attention to this issue. This lack of attention may cause the Navy to miss opportunities for cost savings possible through higher volume production, synergism of the technology base, reduction of weapon system overhead, and cooperative R&D.

Recommendation: HQNAVMAT review and concur with draft ORs/MENs to assure foreign development is considered

NAVMAT development proposals and NDCPs should include an alternative options which consider use of foreign systems either currently under development or deployed.

HQNAVMAT and SYSCOM Acquisition Review Boards should into account items (a) through (e) under "Problem Description" during program reviews.

Backup Material: Defense Science Board 1978 Summer Study (Ref. 8)
GAO Reports (Refs. 113, 122)
Industry Interviews

Issue Title: 8.b. Business Implication of Military Sales to Foreign Customers

Problem Description: Higher production rates, and higher industry profits can result in increased expenditures for capital improvement, which in turn reduce unit costs. Direct sales to foreign customers vice FMS cases usually results in higher profit for industry. However, government administrative obstacles burden the process of direct sales to foreign governments.

As the Reagan Administration reviews existing arms Transfer Control policy, some administrative obstacles to direct sales may be lowered or removed. Export licensing review is likely to continue, but tight constraints upon the role of U.S. Defense and State Department personnel in facilitating direct sales could be loosened. Even so, we must recognize that continuing customer preference for FMS sales results from 1) perception of nominally lower prices and 2) usefulness to customer of U.S. role as program manager and source of logistics support. On the other hand, the main attractions of direct sale to customers is routinely quicker delivery and availability of equipment not adopted into the Navy inventory.

Conclusion: From a business point of view, Navy should work to encourage direct sales. Concommitantly, FMS can be marketed more vigorously to achieve higher rate production with its attendant advantages.

Recommendations: CNM determine if implementation of an aggressive approach to foreign sales is politically saleable. If so, augment MAT 08F staff and commit to a foreign sales market's approach for those products that will have economic payoff for the Navy.

Backup Material: DSB 1978 Summer Study (Ref. 8)
Industry Interviews.

Issue Title: 9. Management by Distrust: Adversary Relationship

Problem Description: Throughout the Navy acquisition community, distrust of industry seems to be a general attitude of distrusting industry. This causes conflicts, and distraction of time and effort to proof of honesty. Dealing with trivial details to make a point often absorbs valuable resources that should have been applied to getting on with the main effort. Often times one hears a government official state "all contractors are crooks." This epitomizes an adversary mind set that is in no way a healthy attitude for any good business relationship. Nor is this mind set accurate; we did not find dishonesty as a cause of cost growth.

Conclusion: Navy and defense industry must have a good business relationship and therefore adversary attitudes must be turned around. To be truly effective, other services should adopt the same position.

Recommendation: CNM issue policy, in conjunction with the JLCs, to articulate a positive position in this area, and that marketing of this concept be advocated throughout NAVMAT. This does not imply relaxing of good business management or current standards of conduct.

Backup Material: Shipbuilders Council of Americal paper on Adversary Relationship (1974 on 75).

NMARC (Ref. 6)

DSB Summer Studies (Refs. 11, 12)

General Slay's Testimony (Ref. 107)

Defense Industry, J. Gansler (Ref. 214)

Military Industrial Complex, Rep. R. Wilson, (Ref. 225)

Foolish Adversaries, O. Boileau, (Ref. 226)

Government and Industry Relationships, L. Smith, (Ref. 228)

Industry Interviews

Issue Title: 10. Cost Accounting Standards

Problem Description: At present, industry is exposed to conflicting regulations for depreciation. One set of depreciation guidelines is issued by IRS. Firms must follow these in submitting income tax returns. Another set was issued by the Cost Accounting Standards Board (CAS 409). Industry is concerned that if more rapid depreciation is allowed, as would be the case if HR 4646 and S 1435 were enacted, then CAS 409 could be used to "thwart" the intent of such legislation. Industry argues that CAS be revised to institute depreciation accounting rules that are compatible with tax regulations.

Conclusion: This situation is complex and seems to be a problem. Action needs to be taken to insure compatability.

Recommendation: MAT 08C be tasked to prepare a position for presentation by the CNM to the JLCs with the intention of pursuing this problem with OMB.

Backup Material: General Slay's Testimony, (Ref. 107)
GAO Report (Ref. 119)
Industry Interviews

Issue Title: 11. Approval/Provisional Approval for Service Use (ASU/PASU).

Problem Description: The ASU/PASU process is costly because it is time consuming and tends to interrupt production. ASU/PASU requirements stipulate that subsystems/components be approved for service use before production funds (e.g. OPN, APN) can be expended. ASU is granted only upon completion of extensive operational evaluation (OPEVAL) tests to prove operational suitability.

But testing which supports determination of ASU must be performed on hardware that is as nearly identical as possible to units that will be produced when full rate production is initiated following ASU.

For a variety of reasons, the time required to obtain ASU/PASU is excessive; this situation is agravated further by present administrative, material and manufacturing lead times.

A substantial production line hiatus (production gap) can occur while testing is being conducted and while waiting for ASU or PASU to be granted.

In order to provide for limited production with other

R&D funds, to span development model manufacture and full rate production, a secretarial waiver is required. Further, there is a Navy mind set against this practice.

Conclusion: If continuity of production is maintained between that required for OT&E and full scale production, unit costs could be reduced and investment in facilitazation would be motovated. Therefore the ASU process should be changed to accomodate, when prudent, interim production in advance of ASU without requiring the heroic machinations of a secretarial waiver.

Recommendation:

1. CNM request CNO delegate authority for ASU to CNM or SYSCOM Commanders.

2. SYSCOMs assure acquisition strategies provide for smooth transition and continuity of production by planning for smooth transition from ED to low rate production as a Milestone II decision.

3. Combine ASU/production into one Milestone III decision.

Backup Material — Government and Industry Interviews

Issue Title: 12. Utility of Basic Research and Exploratory Development Programs

Problem Description: About seven hundred million dollars are spent annually on the Navy's 6.1 and 6.2 programs. The benefit and utility of these expenditures is not clear; nor are effective mechanisms in place for technology transfer.

Conclusion: In order to realize potential benefits of the tech base in the Navy cost arena:

- More effective means for technology transfer must be implemented (Most industries interviewed had no knowledge of Navy tech base efforts)
- Synergism with IR&D and company funded research must be pursued.
- Tech base effort should have as a major orientation, the development of technologies which ultimately reduce Navy outlays, e.g., increased energy efficiency, reliability, decreased maintenance, or least cost manning policies.

Recommendation: That the CND be requested to establish management objectives to assure effective technology transfer mechanisms are in place, that the IR&D program is effectively leveraged by the Navy tech base, and that a strong cost savings orientation be applied to the 6.2 program objectives.

Backup Material: Industry and SYSCOM Interviews

Decision Delays

Issue Title: 15.b. Dual Acquisition Executives

Problem Description: Decision making within the Navy is complicated due to the existence of shared decision making authority between ASN (MRA&L) and ASN (RE&S). Many actions (e.g., exception 11 RAN/D&F, production waivers, etc.) must pass through both ASN's. This delays decision making.

Conclusion: The dual acquisition executive structure complicates the decision-making process.

Acquisition process lead times could be streamlined/shortened by accelerated decision making. Decisions can be effected more rapidly by having fewer persons involved in the process.

The problem at the DOD level was addressed by merging the I&L and DDR&E organizations that existed previously into the present Research and Engineering organization. The action placed responsibility for DOD system acquisition clearly in the hands of a single acquisition executive.

OSD policy (DOD Directive 5000.1) states clearly that

each Department is to designate one Acquisition Executive who shall be responsible for all acquisition undertakings within the affected Department.

Recommendation: CNM lobby with SECNAV to clarify the Acquisition Executive role at the ASN level, and assign a single official for secretarial acquisition issues.

Backup Material:

OMB Circluar A-109 (Ref. 1)

DSB 1977 Summer Study (Ref. 4)

DSB 1979 Summer Study (Ref. 12)

NMARC (Ref. 6)

GAO Reports (Ref. 105, 106, 124, 127)

Industry Interviews

Issue Title: 13.b. Contract Processing Delay

Problem Description: Contracting decision making is laborious and drawn out. The time delays in contract processing contribute markedly to cost growth.

The cost of goods and services during the time procurement actions are being processed increases due to inflation.

Additional overhead cost are incurred in-house and by industry as a result of contract processing delays

Checks and balances that have grown up over the years have weighted the system heavily toward "group" decision making and multiple review steps to ensure tht all precautions are taken in connection with every contract action.

The cost effectiveness of "protecting against all possible protest" is questionable.

Greater delegation of contracting officer authority would likely accelerate the procurement process.

Conclusion: Positive action to reduce delays is necessary.

Recommendation: Delegate increased contracting officer authority and responsibility to lower organizational levels commensurate with ability of individuals selected for such increased authority/responsibility.

Shift to use of omnibus/class Determinations and Findings covering broad programs vice individual procurements.

Grant contracting officer warrants to selected Program Managers.

Increase numbers of non-supervisory contract negotiators (this infers higher graded journeyman negotiations).

Necessary checks and balances could be achieved through a sampling procedure and a heavy investment in training of contracting personnel vested with the increased decision making authority contemplated herein.

Backup Material: NAVAIR paper regarding non-supervisory contract negotiators. (Ref.)

Report of the Commission on Government Procurement. (Ref. 2)

Blue Ribbon Defense Panel, 1970 (Ref. 65)

Interviews with government and industry personnel.

Issue Title: 13.c. Project Management Inhibitors

Problem Description: Many project managers are subjected to multiple layers of supervision. Multiple layers of supervision delay decision making and disrupt attention to program management.

Conclusion: The cost implications of delayed decision making are increasing and may now outweigh considerations that have led heretofore to layering of supervision over many project managers.

Reduction of supervisory layering would likely stimulate accelerated decision-making which has cost saving implications.

Recommendation: CNM reguire absolute minimun or no layering between project/acquisition managers and their Flag Project

Backup Material: Report of Commission on Government Procurement (Ref. 2)
NAVMAT-Industry Roundtable (Ref. (3)
NMARC (Ref. 6)
GAO Reports (Refs. 105, 106, 124, 117)
Military Industrial Complex, Rep. R. Wilson (Ref. 225)
Foolish Adversaries, O. Boileau (Ref. 226)
NAVAIR paper on non-supervisory contract negotiators

(Ref.)

Industry Interviews

Issue Title: 14. Management Reserves

Problem Description: An effective system of management reserves does not exist. Without reserves, the PM has no flexibility to manage. This situation then produces delays in decision making which increase cost with passage of time. So, when cost growth occurs the PM has no other alternatives except to incur schedule delay or descope.

Good programs/program managers are penalized as their funds are "raided" by budgeteers to bail out other programs in trouble or to fund new efforts. The present system is "reverse incentivised."

Conclusion: The "management reserve" problem has never been dealt with effectively.

The philosophy of the staff "budgeteers" must be reconciled with the philosophy of the line program managers to sustain management reserves in the budget.

The problem can be solved through joint determined effort. Lacking such determination it should be determined by fiat by the CNM.

Recommendation: Established a system of management reserves at the SYSCOM level where each Project Manager is assigned a "management reserve" "Draw" account on the comptroller's books. The amount designated should not be raided by the comptroller or other project managers. Changes (loans) between Project Manager's reserve account balances should be negotiated between Project Manager's themselves.

Backup Material: Commission on Govermnent Procurement (Ref. 2)
DSB - 1977 Summer Study (Ref. 4)
DSB - 1979 Summer Study (Ref. 12)
DSB - 1980 Summer Study (Ref. 11)
NMARC (Ref. 6)
GAO Reports (Ref 112, 126, 127)
HASC Report (Ref. 128)
Industry and Government Interviews

SECTION I

PART C

PERCEIVED REASONS FOR NON-IMPLEMENTATION OF PRIOR RECOMMENDATIONS

SECTION I

PART C

PERCEIVED REASONS FOR NON-IMPLEMENTATION OF PRIOR RECOMMENDATIONS

The disappointing progress in implementing prior recommendations as shown in Part A is judged to be attributable to the following summarized reasons:

1. Much implementation activity has been directed toward reporting status of the tracking activity--and in trying to show the recommendations as "being closed out" or as having been implemented vice being directed at the hard core recommendations themselves.

2. Many prior implementation actions have been segmented to address individual specific recommendations when a broad orchestrated set of implementation actions is really necessary to get at underlying problems.

3. Many past implementing actions have been aimed at symptoms instead of fundamental underlying causes. (Frequent band aid approach.)

4. Many prior study recommendations do not come to grips with the fundamental incentives that operate to cause people to do what they do. (These are cases where past recommendations are implemented only half heartedly or not at all because they are really reverse incentives. Others are not

implemented because they are directed at inappropriate levels of management (where the level that is the subject of the recommendation can't practically implement the recommendation because it is beyond the scope of that level's authority).

5. We believe that the most common reason for nonimplementation is simply that relentless action on the part of management is not taken to ensure that sensible recommendations are indeed implemented. It is relatively common for one level of management simply to direct a lower level to implement a set of recommendations then essentially walk away and trust to luck. (Thre is seldom any real hard core follow up of a nature where one goes to see what the true status really is.) The IG and Navy Area Audit reviews don't really get at the problem either because these are compliance-type reviews done by people who likely are far from being experts in what they are doing. By analogy, they are competent most times to look and see if people are speeding or breaking some traffic law, but they lack expertise to tell whether the stop signs are in the right place or if the speed limits are set right.

Practical examples of the preceding can be cited: For example, many studies advance detailed and repeated recommendations relating to budget over optimism and program turbulence. Most people at the SYSCOM and even NAVMAT level view these problems as beyond their scope or ability to solve.

Similarly, in many instances it is apparent that people just go right on doing as they have always done because it is easier that way than to change. Where large numbers of people are involved in a complex process not much progress can be noted when only one or two people change. It is necessary for large numbers of people to change and that only comes as a result of someone higher up pushing relentlessly to see that sensible recommendations are indeed implemented. It is usually too much to hope that they will take root and grow of their own accord.

Conclusion:

Instituting fundamental changes is very difficult. The top decision maker must first have clear ideas about what must be done. He must be able to articulate these to his organizations, and he must create an apparatus to implement and monitor these changes. Furthermore, he must devote a large amount of his own time to making sure that the changes are implemented; and he must pursue and support these goals relentlessly. Above all, he must have an iron will to fight the battles that must be fought to implement the changes.

SECTION II

RECOMMENDATIONS

PART A	PROCEDURAL IN NATURE
PART B	ORGANIZATIONAL AND PROCEDURAL
PART C	ATTITUDINAL IN NATURE

SECTION II

PART A

RECOMMENDATIONS

PROCEDURAL IN NATURE

SECTION II

PART A

Recommendations That Are Procedural In Nature

1. Recommendation #1 (Test Case Procedure)

Establish immediately a "test case" where one project office in NAVSEA and one in NAVAIR is designated as such. With respect to each test case project office so selected:

a. Pick a qualified contracting officer and designate him Deputy Project Manager, (Consider designating the Project Business/Financial Manager as Contracting Officer when such individual has had prior Contracting Officer experience). Require such person to reside physically in the Project Office and report to the Project Manager. Empower the Contracting Officer with Contracting Officer authority commensurate with the dollar value of effort being pursued by the Project Office. Groom such individual as a prospective future Project Manager.

b. Detail one or more non-supervisory contract negotiators to the Project Management staff. Require such personnel to reside physically in the P.M. office.

c. As an alternative to (a) and at some future time consider designating selected Project Managers as Contracting Officers.

d. Delegate significantly increased contracting officer authority to the SUPSHIP/NAVPRO, etc., applicable to the aforementioned "test case" project offices. Require maximum delegation of authority/responsibility from the PM to the Administrative Contracting Officer (ACO) to adjudicate changes to applicable contracts.

e. Designate one member of the OGC staff as counsel to each "test case" project office. Require such designated OGC personnel to be located physically in the PM office. Empower such OGC personnel to approve for OGC any and all actions that would normally be screened by OGC under existing procedures.

Rationale

- Authority and responsibility are currently diffused. Multiple participants--no matter how expert they are individually in their own field--generally cause actions to take longer than they would were fewer participants involved. This recommendation is predicated on the considerable body of opinion and fact being accumulated in private industry (and government) that demonstrates that "a few highly qualified people" working intimately together are more efficient than a larger group of

similarly qualified persons working as a committee. There is substantial evidence also to indicate that the quality of decisions made by smaller groups equals or exceeds the quality of decisions made by larger groups.

- Private industry, and many in-house Navy observers/participants in the acquisition process seriously recommend designating the Project Manager as Contracting Officer. The rationale is basically to recognize that most Project Managers are de facto Contracting Officers--therefore why not simply empower them legally to do at the outset those things which they now accomplish via Proxy through the Contracting Officer.

- The System Commanders are Contracting Officers by virtue of being "Heads of Processing Activities" notwithstanding their specific Contracting Officer background or lack thereof. It may be argued therefore that certain Project Managers who possess adequate backgrounds could exercise the added responsibility and authority of the Contracting Officer without jeopardy.

- Some people argue that Project Managers would be more cautious rather than less cautious were they empowered with the Contracting Officer's responsibility and authority. (Meaning the effect would be good as it would make the Program Manager be more conscious of the business aspects of his decision making.)

- The usual argument against designating the Project Manager as Contracting Officer is that such action would place too much power in the hands of one individual and jeopardize needed checks and balances.

- Any move toward designating Project Managers as Contracting Officers is perceived by the contracting community as an encroachment upon their domain.

- It is the thesis of this report that the pendulum has swung too far toward overspecialization and compartmentalization of work effort. We have reached the point where one has to have an expert or a "focal point" for every segment of a large task. This breeds fractionization of effort, produces friction between segments, tends to induce a serial approach to effort, which collectively adds to the time required to execute a given effort--thereby inflating the cost commensurate with the added time required to accomplish a given effort.

- To overcome the strenuous objections of the contracting community to any move to designate Project Managers as Contracting Officers the approach of picking a qualified Contracting Officer and designating him as Deputy Project Manager is recommended.

- Adoption of this procedure would likely have the following effect:

a. It would provide daily contracting/business management expertise within the Project Office.

b. It would provide an overdue expanded avenue of career progression for the contracting community.

c. It would bring the Project Management and Contracting Communities closer together.

d. It would likely stimulate improved and shortened decision making (providing the person so designated as Deputy Project Manager/Contracting Officer is empowered with substantial dollar value) Contracting Officer authority. (Should be high enough to cover all transactions contemplated to occur within the Project Office involved.)

2. Recommendation #2 (Management Reserves)

Establish realistic management reserves pertinent to each "test case" project. Fence such funds so that they are not subject to being "swept up" by the SYSCOM Comptroller. Empower the PM to reapply to his project at his discretion, any funds that he generates from cost avoidance, cost savings, etc. Exercise the full weight of CNM authority/influence to preclude higher authority from holding hostage any funds that have been appropriated pertinent to the "test case" project office efforts.

Rationale

- The current project financial management system embodies several dis-incentives:

a. It forces a cops and robbers game between Project Managers and SYSCOM Comptrollers.

b. It stimulates spending rates often tied to the calendar vice program events.

c. It tends to penalize proficient Program Managers/programs and rewards poor Project Managers/programs. (As programs get in trouble, higher levels of management tend generally to "take from the healthy and

give to the sick." All too frequently the result is to end up with two sick projects. Better the sick project be killed perhaps and the funds thus made available given to the healthy projects to make them more healthy.

- The overriding objective should be to provide the tools to the Project Manager that he needs to perform effectively. We handicap him on purpose when we raid his funds--which were undoubtedly underprogrammed to begin with.

- The negative incentives should be turned around and made into positive incentives. A proficient Project Manager should be rewarded through being able to reapply any savings generated by his actions to his own program. He should not have to be continually looking over his shoulder to ward off those who would raid his funds at the slightest opportunity.

3. Recommendation #3 (Management Reserve Pool)

Establish within each SYSCOM a project management reserve "pool" operated by the Comptroller whereby each PM has an amount "on the books" from which he can draw up to his allocated amount. Permit PMs to negotiate trades between each other so long as the Comptroller maintains the books and knows the status of each PMs management reserve. CNM ensures that such reserves are not "raided" for other purposes.

Rationale

- To permit each Project Manager to maintain a management reserve of needed proportions would require funding levels that are not realistically attainable. Since management reserves are not needed all at the same time and amount by all Project Managers it is feasible to create a "pooling" concept where each Project Office in essence has a "line of credit" with the SYSCOM Comptroller. The Comptroller need maintain on hand only those amounts that he determines are needed to satisfy some statistically significant number of "draws" by Project Managers against their authorized "lines of credit."

- If the "reserve pool"/line of credit concept is operated and policed properly one can anticipate a large amount of "horse trading" between Project Managers. This should be allowed! Such approach would create a healthy climate of cooperation between Project Managers and concurrently would relieve the Comptroller of feeling obliged to "police" the Project Managers.

4. Recommendation #4 (Non-interference)

To the extent possible prohibit interference in project office conduct of business by outside influences such as Navy Area Audit, GAO, and NAVMAT internal review personnel.

Rationale

- Virtually self-explanatory!

- We must take firm steps to insulate the PMs from extraneous/outside interference. At the very least we should declare a moratorium on self-imposed interference on the Project Management staffs. To limit outside interference we should negotiate a moratorium with the GAO that provides at least for GAO to obtain CNM approval in advance prior to descending upon a SYSCOM project office.

5. Recommendation #5 (Stepladder Quantities and Optimum Rates)

Strongly encourage the "test case" PMs to solicit proposals based on "stepladder" quantities and optimum rate of effort (as seen by the contending contractors).

Rationale

- The pendulum has perhaps swung too far in our zeal to treat all contractors equally. Contractors, just like people, are different. They have different resources that can or cannot be brought to bear at different times.

- We should capitalize upon such differences when feasible rather than force the common denominator approach.

- Sufficient latitude exists under current contracting ground rules to permit greater use of the stepladder and optimum rate of effort approach.

6. Recommendation #6 (Source Selection)

Empower the "test case" PM to be the source selection authority. Encourage the PM to solicit technical proposals and eliminate X-number based on technical evaluation alone. Negotiate with remaining contenders. Make award based predominately on past (cost credibility) track record coupled with proven technical competence.

Rationale

- The pendulum has perhaps swung too far toward segmenting the source selection process in the effort to maintain a "scrupulously fair" process. The in-house overhead cost is substantial. Many observers contend that the exercise is pro forma and done primarily for cosmetic reasons with the final outcome being a political decision that most knowledgeable observers could predict ahead of time.

- The actions recommended would shorten the time required normally to progress from RFP issuance to contract award.

- It is judged that sufficient checks and balances would continue to exist under the recommended procedure to protect the integrity of the source selection process.

- The recommendation to lean towards selecting the best technical proposals and then subsequently soliciting cost proposals from only the remaining contenders is designed to accomplish several improvements in the evaluation/selection process:

First: It eliminates substantial bid and proposal cost on the part of all contenders during the first round if they are involved only in preparing a technical proposal.

Second: It focuses the first round on the technical aspects of the program.

Third: It simplifies, and should therefore shorten the evaluation process. (Fewer cost proposals are evaluated.)

Fourth: It eliminates some of the "auction" aspects that industry alleges continually creep into the source selection process.

- The recommendation to base award more strongly on past cost credibility track record coupled with proven technical competence is advanced because it is industry's strong perception that the Navy does not follow this procedure. Knowledgeable Navy personnel dispute the industry contention. There is insufficient data readily available to document the case one way or another. Both sides agree that this approach is preferable therefore it should be pursued strongly and progress should be tracked precisely to determine the real extent of compliance with this policy.

7. Recommendation #7 (Determinations and Findings)

Draft class determinations and findings (CD&Fs) pertinent to the procurements involved in the "test case" projects. Obtain Secretarial approval of these CD&Fs such that no subsequent approvals of procurement transactions pertinent to the "test case" projects are necessary.

Rationale: Statutes currently require a Secretarial approval before procurements of certain type and magnitude can be awarded. The statutory requirement is to preclude abuses to the procurement process. The main thrust of the requirement was meant to ensure also that procurements are openly advertised for formal advertized bidding whenever possible. When "negotiation" is more appropriate then certain thresholds apply. In the weapons development arena, these requirements translate generally to the Secretariat becoming involved in procurement transactions where the value is $100,000 or greater.

The number of such transactions requiring Secretarial involvement and approval of the "Determination and Finding" document related to such procurements is extensive.

The basic statutes provide also for combining a series of individual contemplated procurement transactions under an "umbrella" or "CLASS" determination and finding. Obviously, expanded use of the "class D&F"

approach where warranted would reduce the number of individual procurement transaction requiring Secretarial involvement. The reduction in number could streamlinde the review/approval process.

It is recommended that greater use of class D&Fs be initiated by the System Commanders and endorsed strongly by the Chief of Naval Material. It is recommended that the CNM lobby strongly with key Secretariat personnel to push for Secretariat acceptance of the broad end use of class D&Fs.

In the past, the tendency has been for the Secretariat to utilize the D&F document as a program control document that was used at times to restructure programs. It is judged that if the Secretariat is persuaded to accept broadened use of the class D&F approach there will have to be some greater assurances given the Secretariat by the CNM that proper control is being exercised over the process at the CNM level. Proper levels of assurance can be secured through tighter management of the Acquisition strategy document at the CNM level. It is recommended that as a quid pro quo for expanded use of the class D&F approach, the CNM assure the Secretariat that acquisition strategy documents pertinent to such programs will be approved personally at the CNM level.

8. Recommendation #8 (Turbulence)

Advise the CNO and the Secretariat of the "test case" procedure and seek OPNAV/Secretariat cooperation in prohibiting program/funding turbulence involving the "test case" programs.

Rationale: If the Navy is serious about constraining weapons acquisition program cost growth, the Navy should be willing to implement a moratorium against self-inflicted program/funding turbulence in the test case programs.

Virtually all persons interviewed (both gowt and industry) asserted forcefully that program (quantity changes both up and down) and funding turbulence was the principal factor causing cost growth in established acquisition programs.

The problem has been recognized and acknowledged for years yet little or no progress has been made toward solving the problem. Where turbulence is imposed from OSD levels or higher there is limited opportunity to constrain such turbulence. Sufficient opportunities do exist however to constrain turbulence that is self-induced within the Navy hierarchy.

It is recommended strongly that a moratorium simply be declared and maintained by the CNM against program/funding turbulence pertinent to the selected "test case" programs. This is within the authority of the CNM to execute unilaterally and by straightforward mandate.

Concurrently, the Secretariat and OPNAV should be informed of the CNM imposed moratorium and their cooperation solicited in attempting to hold Secretariat and OPNAV induced turbulence to such test case programs to an absolute minimum.

SECTION II

PART B

RECOMMENDATIONS

ORGANIZATIONAL AND PROCEDURAL

SECTION II

PART B

Recommendations That Are Organizational and Procedural in Nature

1. Recommendation #1: Business Management Cadre

Develop and train a cadre of SES level business managment experts, charged to HQNAVMAT ceiling; then assign one of these to each SYSCOM commander who would:

- Expedite strategies through system and take approval action previously taken by CNM staff
- Act as an acquisition and business advisor to the SYSCOM Commander, and institute business management training programs within the SYSCOM.
- Become a repository of NAVMAT-wide corporate knowledge
- Rotate every two years among SYSCOMS/major PMs/Navy Secretariat/DSMC

Rationale:

There are a number of objectives to be attained by this recommendation:

a. Delegation is being effected

b. Reducing NAVMAT HQTRs staff and detailed involvement

c. Creating the required mind-set on good business management, and developing business management expertise at the execution level

d. Developing a mechanism for collecting corporate knowledge and transferring it to acquisition (program) managers.

2. Recommendation 2:

Layout a management tracking system that will track the progress of the above recommendation and keep CNM informed of the progress.

SECTION II

PART C

RECOMMENDATIONS

ATTITUDINAL IN NATURE

SECTION II

PART C

Recommendations That Are Attitudinal and Procedural in Nature

1. Recommendation #1 Delegation of Authority/Responsibility

CNM and SYSCOM Commanders direct a campaign of delegating authority and responsibility to the lowest levels possible commensurate with the ability of specific persons involved to accommodate such increased authority and responsibility.

Rationale: The rationale for such recommendation goes without saying. It is a widely recognized good business practice. We pay frequent lip service to the practice but it is not carried out nearly to the extent that it could or should be.

The practical implementation of this recommendation can occur two ways:

First: As a by-product of implementing the "floor manager" approach discussed in Section II Part B preceding.

Second: Through a concerted effort to specifically delegate increased authority and responsibility to specific individuals.

Note: Where such action increases the authority and responsibility of person "A" at the expense of person "B" then we must be prepared also to accept the fact that person B may not be needed in the loop as before and we should be willing to shift that person/billet to a place where he/she/it may be needed more acutely.

Concluding Note: The collateral end result of such a campaign should be to free up some billets/personnel assets at higher managerial levels that can be shifted into the severely undermanned project management offices. (We should be able to experience a subtle shift of some key personnel from "overhead" into "direct labor."

2. Recommendation #2 "UNO DIR Approach"

Adopt throughout the acquisition community the practice of advising one's superior that one is proceeding as indicated unless otherwise directed. (UNODIR approach).

Rationale: If we accept the assertion that we have competent people running key projects, and if we delegate increased authority and responsibility to them as recommended herein--then we should be willing as well to manage increasingly "by exception."

The practical way to do that and to streamline the review/approval process is to permit our people who are competent to take action on their own and simply advise their superior(s) that they are doing so, and that they will procedd as indicated unless pulled up short and told to do otherwise.

This has the effect of accelerating significantly the decision process. It does not usurp the authority nor responsibility of higher eschelon managers--it merely forces them to indeed manage by exception rather than by detail.

The fear is that someone will go too far out on a limb and we will be damaged by some precipitous action taken by an underling. We must balance that fear against the stretch out in time that is occurring due to each managerial level having to buck the decision upstairs for resolution. That approach protects more people. It also elevates an inordinate amount of decision making to levels above which the decision could really be made logically.

The argument that only the higher level decision makers have the broad perspective and all the facts needed to make a given decision must be weighed against the stretch out in decision making time that occurs inevitably under such an approach. It is also far from certain that the higher levels are better armed with facts. More often than not, the greater the distance such decision making is removed from the problem the more watered down the real facts become.

3. Recommendation #3 (Preplanned Product Improvement)

Adopt a philosphy relative to weapons develpment/acquisition risk that differs unacceptable risk to a preplanned subsequent upgrade. (Accept less perfection in earlier time frames; but plan for and carry out feasible upgrades in subsequent time frames.)

Rationale: In any major undertaking the basic dilemma is to judge and decide how large the steps of progress should be toward the objective of the effort. No set formula or approach is appropriate as each situation varies substantially from others.

There are strong pros and cons that can be agreed on this issue and it is beyond the scope of this report to lay out both sides of that agreement in detail.

On balance, and for purposes of this study, we have taken the position that it is better to err on the side of smaller, more discrete, preplanned, incremental, steps than the larger, more all encompassing approach.

We are persuaded that there are habitually enough unknowns and pitfalls in the course of developing/acquiring any weapon system that one is likely to be ahead of the game in the long run by planning future improvements at the outset as one goes rather than trying to incorporate all that is available or desired in one large leap forward.

APPENDIX A

LISTING OF ISSUES

APPENDIX A

LISTING OF ISSUES

1. ACQUISITION STRATEGY

   a. Faulty business strategy
   b. Multi-year advantages not exploited
   c. OMB Circular A109
   d. Inadequate specifications
   e. Risk assessment/rewards

2. FAULTY INITIAL BUDGETING

   a. Government inability to handle higher-than-budgeted inflation (inflation rates stipulated by OMB)
   b. Self-fulfilling prophecy syndrome
   c. Proposal evaluation/source selection driven by price competition
   d. Too many programs/resources spread too thin
   e. Design to cost/affordability

3. PROGRAM TURBULENCE

   a. Funding/perturbations
   b. Peaks and valleys in contract workload
   c. Uneconomical production rates

4. CAPITAL INVESTMENT/INDUSTRY BASE MOBILIZATION

   a. Cost of money
   b. On again/off again programs
   c. Productivity enhancement
   d. Inventory versus mobilization capability

5. GFE/CFE TRADE OFFS

   a. Contractor warranties
   b. Storage/obsolescence costs
   c. System/subsystems design drivers and total system integration
   d. GFE and standardization
   e. Data procurement

6. CONTRACT NEGOTIATIONS, PROPOSAL EVALUATION, AND SOURCE SELECTION

   a. Previous cost experience is not usually used by negotiating team
   b. Government negotiating teams not as well prepared as industry in area of cost and pricing analysis
   c. Undue focus on profit when labor and material are far more important cost drivers
   d. Profit and G&A pyramiding in subcontract area
   e. Improper use of DCAA/DCAS evaluations
   f. Accelerate proposal evaluation time

7. CONTRACT CHANGES/CONTRACT ADMINISTRATIONS

   a. Timely adjudication of changes
   b. Constructive changes (volume of incidence and level of organization)
   c. Delay, disruption, and ripple effect (especially in shipbuilding)
   d. Cost growth as a function of unknown unknowns (UNK/UNKS)
   e. Value engineering
   f. Navy overhead cost of contract administration (audits, preaward surveys, etc.)

8. NATO/FMS

   a. Foreign armaments collaboration
   b. Business implication of military sales to foreign customers

9. MANAGEMENT BY DISTRUST: ADVERSARY RELATIONSHIP

10. COST ACCOUNTING STANDARDS

11. APPROVAL/PROVISIONAL APPROVAL FOR SERVICE USE (ASU/PASU)

12. UTILITY OF BASIC RESEARCH AND EXPLORATORY DEVELOPMENT PROGRAMS

13. DECISION DELAYS

   a. Dual acquisition executives
   b. Contract processing delay
   c. Project management inhibitors

14. MANAGEMENT RESERVES

APPENDIX B

BIBLIOGRAPHY

NAVY ACQUISITION COST STUDY -

LITERATURE SEARCH AND ANALYSIS

The literature search and selected bibliography listed in this section are the results of fifteen bibliographic searches which produced some two-hundred items for review. Searches were limited to the topic of defense acquisition cost growth, from 1970 to the present time. Pertinent documents were drawn from:

Defense Documentation Center,
Defense Technical Information Center,
Defense Logistics Studies Information Exchange,
Defense Systems Management College Information Center,
Army Procurement Research Office, and the
personal collections of study contributors.

Only those documents which indicated a substantive relationship to cost growth are listed in the selected bibliography. Note that all item numbers through 250 have not been assigned. Entries were cataloged in block groups of fifty as the collection was assembled, for the convenience of the study members.

Except for material belonging personally to study group participants, documents assembled during this effort will form the basis for a collection in defense acquisition cost growth at the Defense Systems Management College.

NAVY ACQUISITION COST STUDY

Selected Bibliography

Item Nos.	Documents
1 - 50	FORMAL COMMISSIONS/PANELS
51 - 99	REPORTS/STUDIES
100 - 150	CONGRESS/GAO, HEARINGS, REPORTS
151 - 199	THESES/PAPERS
200 - 250	OTHER REPORTS/BRIEFINGS/BOOKS/ ARTICLES/NEWSRELEASES

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APPENDIX C

LISTING OF COMPANIES AND GOVERNMENT ORGANIZATIONS CONTACTED

Interviewed representatives from the following companies:

BOEING
BATH IRON WORKS
CDC
FMC
HUGHES
IBM
LOCKHEED
MARTIN-MARIETTA
MINNEAPOLIS HONEYWELL
NORTHROP
PRATT & WHITNEY
SPERRY
TODD SHIPYARD

Interviewed various in-house Navy acquisition offices.

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